Notice of Allowability	Application No.	Applicant(s)	
	10/680,913	BUNTON ET AL.	
	Examiner	Art Unit	
	Qutub Ghulamali	2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *10/08/2003*.

2. ☒ The allowed claim(s) is/are *1-7,10-12, 14-15 and 20-23*.

3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a) ☐ All b) ☐ Some* c) ☐ None of the:
      1. ☐ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
      3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
   (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date 10/08/2003
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date _____ .
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

DETAILED ACTION

Acknowledgement

1. This Office Action is responsive to the Amendment filed on 10/08/2003.

EXAMINER'S AMENDMENT

2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mr. Mark E. Scott on 11/29/2006 and 11/30/2006.

The application has been amended as follows:

IN THE CLAIMS:

Claim 1, line 9, after "symbols were detected", " , " has been replaced with -- ; --.

Claim 1, lines 9, after "symbols were detected", -- during the training sequence -- has been inserted.

Claim 1, line 9, after "discard symbols from", -- the -- has been inserted.

Claim 1, line 9, after "from the FIFO", "buffers where" has been replaced with -- buffer for each of a plurality of channels where the --.

Claim 1, line 10, after "symbols are not detected", " , " has been replaced with -- ; --.

Claim 1, lines 10, after "wherein the suspension", -- of output from the FIFO buffers -- has been inserted.

Claim 1, line 11, after "and discarding", -- symbols from the FIFO buffer for each of a plurality of channels -- has been inserted.

Claim 1, line 11, after "continues until", -- the -- has been inserted.

Claim 1, line 11, after "detected in all", -- the -- has been inserted.

Claim 11, line 6, after "removing symbols", -- received during the training period -- has been inserted.

Claim 11, line 8, after "suspending", the words "removal from those" has been replaced with – removing symbols received during the training period from the plurality of -- has been inserted.

Claim 11, line 9, after "buffers in which", -- the -- has been inserted.

Claim 11, line 9, after "symbol is detected;", -- and -- has been inserted.

Claim 11, line 10, after "discarding symbols from", -- the plurality of -- has been inserted.

Claim 11, line 10, after "FIFO buffers where", -- the -- has been inserted.

Claim 11, line 11, after "not detected until", the word "a" has been replaced with -- the --.

Claim 20, line 8, after "receiving the", the word "symbols" has been replaced with -- known training start symbol and a plurality of known training data symbols --.

Claim 20, line 10, after "discarding the", -- plurality of known training data -- has been inserted

Claim 20, line 10, after "buffer until the", -- known -- has been inserted.

Claim 20, line 11, after "symbol is reached;", -- and -- has been deleted.

Claim 20, line 12, after "each serial lane;", -- and -- has been inserted.

Reason for Allowance

3. Claims 1-7, 10-15 and 20-23 allowed.

4. The following is an examiner's statement of reasons for allowance:

The art of record, in combination with other claimed limitations neither teaches nor renders obvious a high speed interconnection adapter comprising: a reconstruction logic coupled to the FIFO butters and configured to monitor output symbols in the FIFO buffers during a training sequence for start symbols, wherein upon detection of a start symbol from less than all the FIFO buffers the reconstruction logic is configured to suspend output from the FIFO buffers in which start symbols were detected during the training sequence; discard symbols from the FIFO buffer for each of a plurality of channels where the start symbols are not detected; and wherein the suspension of output from the FIFO buffers and discarding symbols from the FIFO buffer for each of a

Claim 20, line 8, after "receiving the", the word "symbols" has been replaced with -- known training start symbol and a plurality of known training data symbols --.

Claim 20, line 10, after "discarding the", -- plurality of known training data -- has been inserted

Claim 20, line 10, after "buffer until the", -- known -- has been inserted.

Claim 20, line 11, after "symbol is reached;", -- and -- has been deleted.

Claim 20, line 12, after "each serial lane;", -- and -- has been inserted.

Reason for Allowance

3. Claims 1-7, 10-12, 14-15 and 20-23 allowed.

4. The following is an examiner's statement of reasons for allowance:

The art of record, in combination with other claimed limitations neither teaches nor renders obvious a high speed interconnection adapter comprising: a reconstruction logic coupled to the FIFO butters and configured to monitor output symbols in the FIFO buffers during a training sequence for start symbols, wherein upon detection of a start symbol from less than all the FIFO buffers the reconstruction logic is configured to suspend output from the FIFO buffers in which start symbols were detected during the training sequence; discard symbols from the FIFO buffer for each of a plurality of channels where the start symbols are not detected; and wherein the suspension of output from the FIFO buffers and discarding symbols from the FIFO buffer for each of a

plurality of channels continues until the start symbols are detected in all the FIFO buffers.

Such limitations as recited in independent claim 1, is neither anticipated nor rendered obvious by the art of record.

The art of record, in combination with other claimed limitations neither teaches nor renders obvious a method of de-skewing data received via a plurality of channels comprising: a receiving, during a training period, symbols into a plurality of FIFO buffers that corresponds to a respective plurality of communication channels;

for each FIFO buffer, removing symbols received during the training period until a start symbol is detected; upon detection of one or more start symbols from less than all of the plurality of FIFO buffers, suspending removing symbols received during the training period from the plurality of FIFO buffers in which the start symbol is detected; and discarding symbols from the plurality of FIFO buffers where the start symbols are not detected until the start symbol is detected in each FIFO buffer.

Such limitations as recited in independent claim 11, is neither anticipated nor rendered obvious by the art of record.

The art of record in combination with other claimed limitations neither teaches nor renders obvious a method comprising: sending a known training start symbol and a plurality of known training data symbols across each serial lane from the first device; receiving the known training symbol and a plurality of known training data symbols in a plurality of buffers, one buffer each for each serial lane, in the second device;

discarding the plurality of known training data symbols from each buffer until the known training start symbol is reached thereby de-skewing each serial lane; and

sending actual data between the first device and the second device across the plurality of serial lanes after the training step. Such limitations as recited in independent claim 20, is neither anticipated nor rendered obvious by the art of record

5. Claims 2-5, 7-9, 11-13, 15-17, 19-20 and 22-23, are allowed by virtue of their dependency to base claims highlighted above.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Contact Information

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Qutub Ghulamali whose telephone number is (571) 272-3014. The examiner can normally be reached on Monday-Friday, 7:00AM - 4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad Ghayour can be reached on (571) 272-3021. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

QG.
Examiner,
AU-2611.
December 1, 2006.

JAY K. PATEL
SUPERVISORY PATENT EXAMINER